

We claim:

1. A method of reducing the amount of acetaldehyde in a melt-processed polyester having vinyl ester end groups, the method comprising incorporating into the polyester at least one active vinyl ester transesterification catalyst for catalyzing conversion of the vinyl ester end groups to acetaldehyde, heating the polyester, and providing egress for the acetaldehyde from the polyester.
2. A method as in Claim 1, wherein the melt-processed polyester is based on polyethylene terephthalate.
3. A method as in Claim 1, wherein the transesterification catalyst is selected from the group consisting of Group Ia and Group IIa metals.
4. A method as in Claim 1, wherein the transesterification catalyst is selected from the group consisting of lithium, sodium, potassium, magnesium, calcium, strontium and barium.
5. A method as in Claim 1, wherein the transesterification catalyst is selected from the group consisting of lanthanides metals.
6. A method as in Claim 1, wherein the transesterification catalyst is selected from the group consisting of lanthanum and samarium.
7. A method as in Claim 1, wherein the transesterification catalyst is titanium.
8. A method as in Claim 1, wherein the transesterification catalyst also catalyzes conversion of the vinyl ester end groups to methyl dioxolane and the step of providing egress also provides egress to the formed dioxolane.

9. A method as in Claim 1, further comprising the step of forming the polyester into a solid article after the steps of incorporating the vinyl ester transesterification catalyst, heating the polyester, and providing egress.

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10. A method as in Claim 1, further comprising forming the polyester into a first solid article after incorporating the vinyl ester transesterification catalyst and heating the polyester, and thereafter reheating the polyester, conducting the step of providing egress, and forming the polyester into a second article.

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11. A method as in Claim 1, wherein the step of heating the polyester comprises melting the polyester.

12. A method as in Claim 1, wherein the polyester is melted during heating and formed into a solid article and the solid article is thereafter heated to a temperature sufficient to cause diffusion of acetaldehyde through the solid article.

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13. A method as in Claim 1, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 5 to about 1000 ppm.

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14. A method as in Claim 1, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 25 to about 250 ppm.

15. A composition comprising:  
a polyester having vinyl ester end groups; and  
at least one vinyl ester transesterification catalyst for catalyzing conversion of the vinyl ester end groups to acetaldehyde.

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16. A composition as in Claim 15, wherein the polyester is based on polyethylene terephthalate.

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17. A composition as in Claim 15, wherein the transesterification catalyst is selected from the group consisting of Group Ia and Group IIa metals.

5           18. A composition as in Claim 15, wherein the transesterification catalyst is selected from the group consisting of lithium, sodium, potassium, magnesium, calcium, strontium and barium.

10           19. A composition as in Claim 15, wherein the transesterification catalyst is selected from the group consisting of lanthanides metals.

20. A composition as in Claim 15, wherein the transesterification catalyst is selected from the group consisting of lanthanum and samarium.

15           21. A method as in Claim 15, wherein the transesterification catalyst is titanium.

20           22. A composition as in Claim 15, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 5 to about 1000 ppm.

25           23. A composition as in Claim 15, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 25 to about 250 ppm.

24. A method for making a polyester article comprising:  
incorporating into polyester having vinyl ester end groups at least one active  
vinyl ester transesterification catalyst for catalyzing conversion of the vinyl ester end  
groups to acetaldehyde, heating the polyester, and providing egress for the  
5 acetaldehyde from the polyester; and  
forming the polyester into an article.

25. A method as in Claim 24, wherein the polyester is based on  
polyethylene terephthalate.

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26. A method as in Claim 24, wherein the transesterification catalyst is  
selected from the group consisting of Group Ia and Group IIa metals.

27. A method as in Claim 24, wherein the transesterification catalyst is  
15 selected from the group consisting of lithium, sodium, potassium, magnesium,  
calcium, strontium and barium.

28. A method as in Claim 24, wherein the transesterification catalyst is  
selected from lanthanides metals

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29. A method as in Claim 24, wherein the transesterification catalyst is  
selected from the group consisting of lanthanum and samarium.

30. A method as in Claim 24, wherein the transesterification catalyst is  
25 titanium.

31. A method as in Claim 24, wherein the transesterification catalyst also  
catalyzes conversion of the vinyl ester end groups to methyl dioxolane and the step  
of providing egress also provides egress to the formed dioxolane.

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32. A method as in Claim 24, further comprising the step of forming the polyester into the solid article after the steps of incorporating the vinyl ester transesterification catalyst, heating the polyester, and providing egress.

5           33. A method as in Claim 24, wherein the solid article is a first solid article and the method further comprises forming the polyester into the first solid article after incorporating the vinyl ester transesterification catalyst and heating the polyester, and thereafter reheating the polyester, conducting the step of providing egress, and forming the polyester into a second article.

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34. A method as in Claim 24, wherein the step of heating the polyester comprises melting the polyester.

15           35. A method as in Claim 24, wherein the polyester is melted during heating and formed into a solid article and the solid article is thereafter heated to a temperature sufficient to cause diffusion of acetaldehyde through the solid article.

36. A method as in Claim 24, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 5 to about 1000 ppm.

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37. A method as in Claim 24, wherein the vinyl ester transesterification catalyst is present in the polyester in the amount of about 25 to about 250 ppm.

25           38. A method of producing a polyester article that comprises the steps of:  
preparing a polyester melt having vinyl ester end groups;  
adding a vinyl ester transesterification catalyst for catalyzing conversion of the vinyl ester end groups to acetaldehyde and methyl dioxolane;  
venting the formed acetaldehyde and methyl dioxolane from the polyester melt and thereafter  
30           forming the polyester article.

39. A method as in claim 38, wherein the polyester melt is not solidified prior to forming the polyester article.

5           40. A method as in claim 39, wherein the vinyl ester transesterification catalyst is titanium.